

Applicant : Khosravi, et al.
Appl. No. : 09/427,260
Examiner : B. Pelegrino
Docket No. : 702563.4004

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1-28 (Cancelled)

29. (Previously Amended) A stretchable stent, comprising:

a coiled-up sheet having overlapping inner and outer longitudinal sections extending generally parallel to a longitudinal axis thereof, the coiled-up sheet being expandable between a contracted condition and one or more enlarged conditions, the coiled-up sheet defining a periphery in a plane substantially perpendicular to a longitudinal axis thereof;

a plurality of locking elements extending from the inner longitudinal section for engaging openings in the outer longitudinal section to selectively secure the coiled-up sheet in the one or more enlarged conditions; and

a plurality of stretchable elements formed in the coiled-up sheet, the stretchable elements having a shape memory such that the stretchable elements are plastically deformable towards an unstretched condition at a temperature at or below about 25 degrees Celsius, and biased to expand about the periphery from the unstretched condition towards a stretched condition when exposed to a temperature at or above body temperature;

wherein each stretchable element comprises a pair of peripherally expandable wing-like elements extending generally parallel to the longitudinal axis.

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30. (Original) The stretchable stent of claim 29, wherein the stretchable elements define a multi-cellular structure with peripherally adjacent stretchable elements being connected at a point intermediate the pair of wing-like elements.

Claims 31-54 (Cancelled).

55. (Amended) A stretchable stent, comprising:
a coiled-up sheet having overlapping inner and outer longitudinal sections extending generally parallel to a longitudinal axis thereof, and defining a periphery, the coiled-up sheet being unrollable between a contracted condition and one or more enlarged conditions; and

a plurality of stretchable cells formed in the coiled-up sheet, each stretchable cell comprising a pair of peripherally expandable wing-like elements extending generally parallel to the longitudinal axis, each of said wing-like elements comprising first and second members having undulations, the wing-like elements being expandable about the periphery between an unstretched condition to facilitate placement in a delivery device in the contracted condition and a stretched condition to facilitate expansion of the coiled-up sheet to the one or more enlarged conditions upon deployment from the delivery device.

56. (Previously Added) The stretchable stent of claim 55, further comprising a plurality of locking elements extending from the inner longitudinal section for engaging

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openings in the outer longitudinal section to selectively secure the coiled-up sheet in the one or more enlarged conditions.

57. (Previously Added) The stretchable stent of claim 55, wherein longitudinally adjacent cells are connected to one another at respective tips of opposing wing-like elements.

58. (Cancelled).

59. (Amended) An expandable stent comprising:
a coiled-up sheet having overlapping inner and outer longitudinal sections extending generally parallel to a longitudinal axis thereof, the coiled-up sheet being expandable between a contracted condition and one or more enlarged conditions, the coiled-up sheet defining a periphery in a plane substantially perpendicular to a longitudinal axis thereof;
and

a plurality of stretchable elements formed in the coiled-up sheet, wherein each stretchable element comprises a pair of peripherally expandable wing-like elements extending generally parallel to the longitudinal axis, each of said wing-like elements comprising first and second members having undulations.

60. (Previously Added) The expandable stent of claim 59, further comprising:

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a plurality of locking elements extending from the inner longitudinal section for engaging openings in the outer longitudinal section to selectively secure the coiled-up sheet in the one or more enlarged conditions.

61. (Previously Added) The expandable stent of claim 59, wherein the stretchable elements have a shape memory such that the stretchable elements are plastically deformable towards an unstretched condition at a first temperature, and biased to expand about the periphery from the unstretched condition towards a stretched condition when exposed to a temperature at or above a second temperature.

62. (Previously Added) The expandable stent of claim 61, wherein said first temperature is at or below about 25 degrees Celsius, and said second temperature is body temperature.